

REMARKS

Applicants have amended the claims in response to the rejection under 35 USC 112, second paragraph, to eliminate parenthetical expressions and to clarify the method of measuring the oxygen concentration. Based on these amendments, the indefiniteness rejection should be withdrawn. Applicants have also amended the claims to set forth a range of carbon content within lower and upper limits. Redundant claims 4 and 17 have been cancelled, mooting the rejection in paragraph 6 on pages 8 and 9 of the Action.

Claims 1, 2, 5/1 and 6/1 stand rejected under 35 USC 103(a) on Abe in view of Sueoka and Inoue. This rejection is respectfully traversed.

Simply put, the cited prior art does not disclose wafers that contain carbon within the claimed range. The Examiner recognizes this deficiency in Abe, but contends that Sueoka overcomes this deficiency because Sueoka teaches the introduction of carbon into silicon wafers to reduce the occurrence of slip dislocations.¹ However, Abe expressly states in its Background Art section, at column 5, lines 18-21, “Further, in the technique of Japanese Patent Laid-open Publication No. 10-150048, since carbon is added at a predetermined concentration, there is anxiety for adverse effect of carbon on the device characteristics.” “Japanese Patent Laid-open Publication No. 10-150048” is, of course, the very Sueoka reference the Examiner cites to complete the case of *prima facie* obviousness. In other words, Abe itself teaches against the combination proposed by the Examiner as evidence of obviousness. Given what Abe says about the adverse effects of following Sueoka’s teachings in the context of Abe’s device, a person of ordinary skill in the art would have had no reason to make the combination of Abe and Sueoka proposed by the Examiner.

Applicants also note that Abe and Sueoka are at odds with each other in another important respect. In both the invention of applicants’ product claims and Abe, the oxygen

¹ The Examiner does not cite Inoue for a teaching of carbon content but instead for a discussion of the claimed BMD densities. Given the deficiencies of Sueoka, the citation of Inoue is not relevant to the rejection.

precipitate has a size of 0.2 μm or more. Abe explains at column 12, lines 25-41, that Sueoka, on the other hand, discloses that slip dislocations are likely to occur when the precipitates reach 200 nm or 230 nm or more (i.e., at or above 0.2 μm). A person of ordinary skill in the art would have found this to be another reason not to combine Sueoka with Abe so as to arrive at the claimed invention.

Accordingly, the rejection of claims 1, 2, 5/1 and 6/1 on Abe in view of Sueoka and Inoue should be withdrawn. For the same reasons, the rejections of claims 7, 11/7, 12/7, 15/7 and 16/7 in paragraph 8 of the Action, of claims 9/7 and 10/7 in paragraph 9 of Action, and of claims 13/7 and 14/7 in paragraph 10 of the Action, all of which rely on the combination of Abe and Sueoka, should also be withdrawn.

Claims 3, 6/3, 8, 9/8-12/8, 15/8 and 16/8 stand rejected under 35 USC 103(a) on Abe in view of Muroi, and claims 5/3, 13/8 and 14/8 stand rejected under 35 USC 103(a) on Abe in view of Muroi and Inoue. These rejections should be withdrawn because Abe, Muroi and Inoue fail to teach the claimed carbon concentration. As noted above, the Examiner cannot use Sueoka to fill this gap.

Early action allowing claims 1-3 and 5-17 is solicited.

In the event that the transmittal letter is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing **474082002800**.

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